Remarks

Claims 1-11 have been amended and new claims 12-22 have been added.

No new matter has been added by these amendments.

The Commissioner is hereby authorized to charge any fees under 37 CFR 1.16 or 1.17 as required by this paper to Deposit Account 19-0065.

Respectfully Submitted

Glenn P. Ladwig
Patent Attorney
Registration No. 46,853
Phone No.: 352-375-8100
Address: Saliwanchik, Lloyd & Saliwanchik
2421 N.W. 41st Street
Suite A-1 Gainesville, FL 32606

GPL/la

Marked-up Version of Amended Claims

Claim 1 (amended):

[A] An isolated peptide encoded by an operon, [including any of the genes identified herein as] wherein said operon comprises a gene selected from the group consisting of *tatA*, *tatB*, *tatC*, *tatE*, *mdoG*, *creC*, *recG*, *yggN*, *eck1*, *iroD*, *iroC*, *iroE*, *mtd2*, and *ms1* to [16] *ms16*, obtainable from *E. coli* K1, or a homologue thereof in a Gram-negative bacterium, [having] wherein said homologue has at least 30% homology at the amino acid or nucleotide level, or a functional fragment thereof[, for therapeutic use].

Claim 2 (amended):

[A] The isolated peptide, according to claim 1, comprising [any of the amino acid sequences identified herein as] an amino acid sequence selected from the group consisting of SEQ ID NOS. 2, 5, 7, 9, 11, 12, 13, 14, 16, 18, 19, 21, 23, 24, 25, 26, 28, 29, 31, 32 and 35-48.

Claim 3 (amended):

[A] An isolated polynucleotide [encoding a peptide according to claim 1 or claim 2, for therapeutic use] which comprises a gene selected from the group consisting of *tatA*, *tatB*, *tatC*, *tatE*, *mdoG*, *creC*, *recG*, *yggN*, *eck1*, *iroD*, *iroC*, *iroE*, *mtd2*, and *ms1* to *ms16*, obtainable from *E. coli* K1, or a homologue thereof in a Gram-negative bacterium, wherein said homologue has at least 30% homology at the amino acid or nucleotide level, or a functional fragment thereof.

Claim 4 (amended):

A host transformed to express a peptide [according to claim 1 or claim 2] encoded by an operon, wherein said operon comprises a gene selected from the group consisting of *tatA, tatB, tatC, tatE, mdoG, creC, recG, yggN, eckl, iroD, iroC, iroE, mtd2*, and *msl* to *ms16*, obtainable from *E. coli* K1, or a homologue thereof in a Gram-negative bacterium, wherein said homologue has at least 30% homology at the amino acid or nucleotide level, or a functional fragment thereof.

Claim 5 (amended):

A vaccine comprising a peptide [according to claim 1 or claim 2], or the means for its expression, wherein said peptide is encoded by an operon, wherein said operon comprises a gene selected from the group consisting of *tatA, tatB, tatC, tatE, mdoG, creC, recG, yggN, eckl, iroD, iroC, iroE, mtd2*, and *msl* to *ms16*, obtainable from *E. coli* K1, or a homologue thereof in a Gram-negative bacterium, wherein said homologue has at least 30% homology at the amino acid or nucleotide level, or a functional fragment thereof.

Claim 6 (amended):

A vaccine comprising a microorganism having a virulence gene mutation, wherein the gene is selected from the group consisting of *tatA, tatB, tatC, tatE, mdoG, creC, recG, yggN, eckl, iroD, iroC, iroE, mtd2*, and *msl* to *ms16*, obtainable from *E. coli* K1, or a homologue thereof in a Gram-negative bacterium, wherein said homologue has at least 30% homology at the amino acid or nucleotide level, or a functional fragment thereof [according to claim 1 or claim 2].

Claim 7 (amended):

[A] The vaccine, according to claim 6, [having] wherein said virulence gene mutation comprises a virulence gene deletion in two genes, wherein one gene encodes *tatA* and the other encodes *tatE*.

Claim 8 (amended):

[A] The vaccine, according to claim 6, wherein the gene lies within a pathogenicity island[, wherein the island comprises a gene identified herein].

Claim 9 (amended):

[Use of a product according to any of claims 1 to 4, or SEQ ID NO. 33,] A method for screening potential drugs, or for the detection of virulence, wherein said method utilizes a peptide encoded by an operon, wherein said operon comprises a gene selected from the group consisting of *tatA, tatB, tatC, tatE, mdoG, creC, recG, yggN, eck1, iroD, iroC, iroE, mtd2*, and *ms1* to *ms16*, obtainable from *E. coli* K1, or a homologue thereof in a Gram-negative bacterium, wherein said homologue has at least 30% homology at the amino acid or nucleotide level, or a functional fragment thereof.

Claim 10 (amended):

[Use of a product according to any of claims 1 to 4, for the manufacture of a medicament for use in the] A method for treatment or prevention of a condition associated with infection by a Gram-negative bacterium, said method comprising administering a vaccine to a person or animal in need thereof, wherein said vaccine comprises a peptide, or a host transformed to express said

peptide, wherein said peptide is encoded by an operon comprising a gene selected from the group consisting of *tatA*, *tatB*, *tatC*, *tatE*, *mdoG*, *creC*, *recG*, *yggN*, *eck1*, *iroD*, *iroC*, *iroE*, *mtd2*, and *ms1* to *ms16*, obtainable from *E. coli* K1, or a homologue thereof in a Gram-negative bacterium, wherein said homologue has at least 30% homology at the amino acid or nucleotide level, or a functional fragment thereof.

Claim 11 (amended):

[Use] The method, according to claim 10, wherein the bacterium is *E. coli*.